Appl. No. 09/802,291
Amdt. dated August 23, 2005
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2183

PATENT

REMARKS/ARGUMENTS

Amendments

The claims are modified in the amendment. Specifically, claim 1 is amended. The amendment is not substantive, merely putting the claim in proper form in response to an objection regarding antecedent basis. Claims 1, 12, and 17 are the independent claims. Therefore, claims 1-5 and 8-22 are present for examination. Applicant respectfully requests reconsideration of this application as amended.

35 U.S.C. §103 Rejection, John L. Hennessy et al. and Brian W. Kernighan et al.

The Office has rejected claims 1, 3, 5, 8-9, 11-14, 16-18, and 20-22 under 35 U.S.C. §103(a) as being unpatentable over the cited portions of the *Computer Organization and Design: The Hardware/Software Interface* to John L. Hennessy and David A. Patterson (hereinafter "Hennessy") in view of the cited portions of *The C Programming Language* to Brian W. Kernighan and Dennis M. Ritchie (hereinafter "Kernighan"). The Office Action has rejected claims 2, 4, 10, 15 and 19 under 35 U.S.C. §103(a) as being unpatentable over the cited portions of the Hennessy in view of the cited portions of Kernighan and further in view of the cited portions of U.S. Patent No. 4,833,599 to Colwell et al. (hereinafter "Colwell").

Kernighan clearly fails to teach or suggest that the comparison logic tests for certain relationships with the *compare instruction alone*, or that the *compare instruction alone* produces a value.

Kernighan: As the cited portion of the reference points out, C is a "general purpose programming language" (Kernighan, Preface, page ix). It is a standardized set of syntactic and semantic rules used to dictate how a computer will act upon certain received data. Programs written in a language like C *must be converted* into machine language before executing any statements. The C language is independent of the underlying hardware.

There is no teaching or suggestion in Kernighan that a "*compare instruction alone*" tests for certain relationships or produces a value. Simply put, no *compare instruction* is

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taught by Kernighan. An example of such an instruction is illustrated in Figure 4 of the Original Application (*See* Original Application, page 9, lines 5-14; Fig. 4). The *code* of Kernighan is not the *instruction* of the present invention.

Furthermore, even if one assumes that some form of compare instruction may eventually be required, there is no teaching or suggestion that it *alone* would test for certain relationships or produce a value. The cited portions of Kernighan teach a *compare routine* written in C. Typically, with any high level language, there is a *1-to-many* correspondence between the *code* and the *machine language instructions*. The code must be compiled to machine language, and may result in any number of resulting machine language instructions. There thus may be any number of sub-instructions necessary to perform this functionality.

Nonanalogous Art: "The examiner must determine what is analogous prior art for the purpose of analyzing the obviousness of the subject matter at issue. In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." (*citations omitted*, MPEP 2141.01(a); *see also Id.*, "Analogy in the Electrical Arts" heading).

The present invention, in the claims at issue, relates to a "processing core" or "processor," and the methods and functions thereof. The invention "provides a novel computer processor chip," with an architecture designed "to increase speed and efficiency" (Original Application, page 1, lines 27-28; page 3, line 26). "The machine code 400 for the compare instruction configures the processing core 500 to perform the compare operation." (*Id.*, page 12, lines 3-4).

The art in the present invention is clearly not analogous to the C programming language of Kernighan. This general purpose programming language is independent of the underlying hardware. It allows humans to manipulate a computer using human syntax, and does not equate to the machine code instructions described in the Specification. It is not written to solve the problems of the present invention - the C language is non-analogous art.

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Combination: Furthermore, a combination of the cited reference would not lead to the invention. The Office cites Hennessy to support certain hardware elements present in the invention (Final Office Action, page 5, sec. 13; page 8, sec. 22; page 10, sec. 29). The cited portions of Hennessey describe a *processor*. The Office then cites Kernighan, stating that "in order to command a computer's hardware, then a language must be used" (Final Office Action; page 6, sec. 15; page 9, sec. 24; page 11, sec. 31). The Office goes on to assert that the functions of the invention can be accomplished using *C*.

Combining the two references, the result is a *processor* that can accomplish certain compare functions *using the C programming language*. The combination suggested by the Office results in a standard computer architecture that may be programmed using the C language; not the compare functionality embedded in a single machine-code instruction of the present invention.

Claims 1, 12, and 17 are allowable for at least the foregoing reasons. Claims 2-5, 8-11, 13-16, and 18-22 each recite limitations in addition to those in the independent claims, and these claims are believed allowable for at least the same reasons as given above.

35 U.S.C. §112 Rejection

Claims 1, 12 and 17 are rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the written description and enablement requirements.

Written Description: The Office states that "(a)ll of these limitations are essentially stating that the output of the comparison operation represents *two* of the mathematical relationships. However, the specification states that the output represents only one of the relationships ... " (Final Office Action, page 3, sec. 5).

In fact, the claims provide that the "compare instruction alone produces *a value*," and that the value has "at least three states." This is what is called for in the Specification, which states that the "output register stores *an integer* which indicates a relationship between the input operands of *greater than, less than, equal to, or not a number (NAN)* ..." (Original Application, page 11, lines 1-3). Thus, it follows that the value (i.e. integer) would have a number of possible

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states (-1, 0, 1, NAN) representing the relationship (i.e. greater than, less than, equal to, or not a number (NAN).

Enablement: The Office again states that " '(a)ll of these limitations are essentially stating that the output of the comparison operation represents *two* of the mathematical relationships ... . It is unclear how a single output value can represent two mathematical relationships." As noted above, the claims clearly call for an output value which has at least three possible states, and such a claim is clearly supported by the Specification.

In *Phillips*, the en banc Federal Circuit stated that "the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning ... ' " *Phillips v. AWH Corp.*, # 03-1269, -1286, page 16 (*citations omitted*, en banc Fed. Cir., decided July 12, 2005). In this case, the Specification clearly supports the meaning of the claim set forth above.

§ 112 2nd Paragraph: The Office also rejected claims 1, 12, and 17 under § 112 *2nd paragraph*, asserting that there is a lack of antecedent basis. Claim 1 is amended to provide clarification, but Applicant respectfully submits that there is no antecedent basis problem with claim 12 or 17. Applicant respectfully suggests that the Office review claims 12 and 17, and specifically identify the issue.
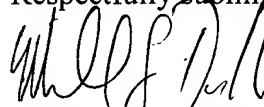
CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

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If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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